others that are no larger than inorganic molecules; and that each one is of specific constitution, like the genes, and is perpetuated and multiplied by assimilation, growth, and division. And though any definite spatial distribution of these formed bodies of the cytoplasm is not commonly manifest, yet a spatial ordering of them can in some cases be observed at the beginning of the egg's development. Thus : * In the Ascidian, too, the striking visible pattern seen at the beginning of cleavage [of the egg] does not at first exist, but is swiftly built under the eye of the observer by streaming movements of the ooplasm that take place immediately upon entrance of the sperm into the egg. In cases like these, where the localizing processes may readily be followed by the eye, the egg offers an impressive spectacle when busily engaged at its work of blocking out the embryo, without visible tools or model, but with an uncanny air of deliberation, purpose, and mastery of technique that any human artist might envy. Beyond a doubt the movements and re-groupings of material which give rise to the visible pattern are expressions of an underlying more fundamental organization that escapes the eye; *hit it is precisely this organization of which we are ignorant?*

Wilson goes on to say that the fundamental ground of organization, or the controlling and directing influence of the organizing process, is not the local distribution of the formed bodies in the cytoplasm; this being shown not only by the absence of any specific or

constant distribution of those bodies in the pre-developmental stage, but also by the fact that ' the visible patterns [once formed] may in many cases be disturbed, or even almost obliterated by subjecting the egg to a strong centrifugal force (by which the formed bodies are displaced) without